CHAPTER 3

PROJECT MANAGEMENT

3.1 Project Management

Project management and coordination are critical to the overall success of the project development process and the efficient delivery of projects that provide effective solutions to address transportation problems. Effective project management and coordination requires the participation of all stakeholders, partners, and the community. Project management tracking will be as per the DDOT project management report requirements from the Ward Program Managers. However, the Project Managers will use the Checklist for their information to track the project progress (a copy of the DDOT Project Checklist, Form 02001, is included in the Appendices within this manual).

3.1.1 Planning Group Inclusion in the 5-year Capital Improvement Program

The Ward Program Manager prepares the initial scope of work and cost estimate and makes request to the budget office for inclusion in the 5-year Capital Improvement Program after identifying, discussing and evaluating issues with other offices in the Department.

3.1.2 Design Scoping

Scoping is initially performed within the proposed project area. The full extent of the project limits must be determined by the Project Manager prior to the start of the field survey to eliminate multiple surveys and duplicate effort. For new or reconstruction projects, project scoping may be an extensive study for that area.

The design scoping takes place during the following: prioritizing and budgeting stage, project programming for obligation of funds for design, and before completion of consultant agreements. The DDOT Ward Program Manager and the Project Manager review the initial scope in the field to further determine project issues and considerations with stakeholders, including WASA and utility companies. These scoping milestones also include an update of the project budget.

NOTE: With Federally Funded projects, it is very important that the budget is developed appropriately to minimize increases.

3.1.3 Estimated Construction Costs

Cost estimations should be prepared for the design scoping stage, preliminary design review, intermediate design review, final design review, and for the engineer's final estimate for bid. Accurate budgets are important for planning purposes and for the District and FHWA to allocate adequate funds. The costs associated with the estimate are as follows:

- DDOT construction plans.
- ROW Acquisitions.
- Utility Improvements.
- Construction plans by others.
- Railroads or other affected parties.

3.1.4 Budget

The preliminary estimate for the program budget is submitted using the Program Action Request (PAR) and a Form 106 (Spending Plan). The Program Manager prepares budget estimates and submits the Program Action Request (PAR) Form to the Capital Division of the Office of the Chief Financial Officer (OCFO) at the budget stage.

3.1.5 Obligation

The Program Manager update the scope of work, updates the cost estimate and resubmits the Program Action Request (PAR) Form and a Form 106 (Spending Plan) to the budget office for programming the project for obligation of funds for design prior to design start.

The final design is complete when construction plans, the construction drawings, details, and specifications and necessary bid documents are approved for obligation of construction funds for the project. This also generally includes ROW, utility, and environmental clearances, final cost estimates, and wrap-up of community involvement. At the conclusion of final design, the obligation of funds for construction moves the project forward to the bid process.

No charges should be made against the construction funds until the funds move to the approved construction phase by the budget office, which generally occurs at execution and award of construction contract.

3.1.6 Important Phase Dates

The Program Manager must notify both the Chief Engineer and the budget office of any changes in the obligation plan or advertisement plan. As soon as the Program Manager becomes concerned that the project may need to be rescheduled for obligation or advertisement for bids, he/she must confer with both the Chief Transportation Engineer and the budget office.

3.1.7 Supplementing the Budget

The Program Manager is responsible for working with the Chief Transportation Engineer and the budget office if the project budget needs to be supplemented, including additional work or overruns.

3.1.8 Day-to-Day Financial Management

The Program Manager must have access to the budgeting system. They should be aware of the purchasing requirements, rules, and directives. If the Program Manager needs services from a vendor outside of the Engineer/Architect services, he/she must coordinate with the Contract Administration Office through the Chief Transportation Engineer. The Program Manager must review month-end closed cost ledgers to ensure that the encumbrances are established and liquidated correctly, and to ensure that charges against the project are accurate and allowable.

3.1.9 Payment to Consultant/Contractors

The Program Manager will receive the invoices for payment and review them before submitting to the Budget Office for payments through the office of Chief Transportation Engineer. They are responsible for ensuring that charges against the project are coded correctly. In the event of coding errors, the Budget Office must be notified to correct the journal entries.

3.1.10 Preliminary Design Review (30%)

DDOT project team reviews preliminary plan submittal, verifies the design criteria/standards, design exceptions, and considers environmental issues and input received from the stakeholders and through the community involvement process. The Consultant shall be required to provide a report justifying the methods and approach to their design. The report will outline the design alternatives, cost estimates, issues, issue resolution, findings, any public involvement results and conclusions. Comments are resolved immediately before design proceeds.

3.1.11 Intermediate Design Review (65%)

The Program Manager/Project manager obtains approval from FHWA for the design exceptions when required. Comments are resolved immediately before design proceeds.

3.1.12 Value Engineering

Value Engineering (VE) is the systematic application of recognized techniques by a multi-disciplined team to identify the function of a product or service, establish a worth for that function, generate alternatives through the use of creative thinking and provide the needed functions to accomplish the original purpose of the project.

There are two important FHWA requirements in the area of Value Engineering. First that DDOT must establish a program to assure that Value Engineering studies are performed when appropriate. Second that Value Engineering studies must be performed on all Federal-aid highway projects on the National Highway System (NHS) with an estimated cost of $25 million or more.

The DDOT Value Engineering program coordinator is an identified staff person with in IPMA. DDOT program procedures provide for the identification of candidate projects [> $25 million and on the NHS] for Value Engineering studies early in the development of the multi-year Transportation Improvement Program [WashCOG TIP]. Ideally, Value Engineering studies will be performed on projects when they are between 30 percent and 60 percent designed. Value Engineering studies should incorporate seven characteristics: 1) a multi-disciplinary team approach, 2) the systematic application of a recognized technique (VE Job Plan), 3) the identification and evaluation of function, cost and worth, 4) the use of creativity to speculate on alternatives that can provide the required functions (search for solutions from new and unusual sources), 5) the evaluation of the best and lowest life-cycle cost alternatives, 6) the development of acceptable alternatives into fully supported recommendations, and 7) the presentation/formal reporting of all VE recommendations to management for review, approval and implementation.

3.1.13 Final Review (100%)

At this milestone, the project team shall resolve the comments from the 65% reviews of the detailed construction plans, special provisions, specifications, pay items, and updated cost estimates. The Program Manager/Project Manager shall resolve all issues, obtains necessary utility

clearances and permits prior to PS&E submission for obligation of funds for construction.

3.2 Major Project Considerations

Section I of the Project Checklist incorporates the consideration of coordination with maintenance, WASA, Urban Forestry, Historic Preservation, survey control, a public involvement process, and the type of improvements.

3.2.1 Environmental

Project specific environmental commitments made during project development by the environmental specialists whether in Environmental Impact Statements, Environmental Assessments or during minor project development must be incorporated into the design plans. Project specific mitigation commitments generally involve avoidance, protection, minimization or replacement of protected resources.

Environmental considerations on a project generally include a review of the following:

- Determination of NEPA Classification
- Route location approval
- Section 4(f)
- Section 106 – Historic Clearances
- Historic Bridges
- Archaeology
- Paleontology
- Flood Plains
- 404 Permit requirements
- Wetlands issues
- US Fish and Wildlife issues
- Hazardous waste and materials/contaminated soils
- Noise Analysis
- Air Quality
- 401Certification
- 402 Permit requirements
- NPDES Permit requirements
- Erosion Control

NOTE: Refer to the **Environmental** chapter within this manual, for more specific information on environmental considerations and process.

3.2.2 Traffic

AASHTO design and safety standards for all projects on the National Highway System (NHS) are applicable to any proposed improvement regardless of funding (Federal or private). Deviations from standards must have approved design exceptions. The FHWA has established 13 controlling criteria requiring formal approval, with the exception of the clear zone (**23 CFR Part 625, Design Standards for Highways**).

Traffic considerations on a project generally include a review of the following:

- Traffic Design Data
- Traffic Accident Analysis (See DDOT's Traffic Accident Reporting and Analysis System (TARAS)).
- Turning Movements/Access issues Signal Warrants
- Traffic Movement Diagrams
- Intersection/Interchange Design
- Traffic Issues
- Bike/Pedestrian Issues
- ADA Accommodations
- Transit Accommodations
- Traffic Calming
- Traffic Signal Plan
- Lighting Plan
- Permanent Signing and Markings
- Construction Traffic Control Plans

Program Manager/Project Manager must confer with the Traffic Services Administration for their approval on traffic issues. The design of safer public streets and highways begins at the Design Scoping Review and continues through advertisement. Highway safety to reduce vehicular accidents and fatalities reduction can be divided into three areas of concern:

- Roadway safety improvements (visibility and operation characteristics).
- Roadside hazard elimination (forgiving roadside concepts).
- Traffic engineering and operations (improving traffic regulations, warnings and directions).

AASHTO recommended order of preference, for treatment of roadside obstacles on existing highways, is as follows:

- Elimination of the hazard.
- Relocation of the hazard to a point where it is less likely to be struck.
- Usage of breakaway devices to reduce the hazard.

- Selection of a cost-effective traffic barrier (longitudinal barrier or crash cushion) to reduce accident severity.

The Project Manager is responsible for providing a design with safety as a primary objective. In many instances, benefits gained from a specific safety design or treatment can equal or exceed additional cost.

The Project Manager can best utilize limited design funds by preparing a benefit/cost analysis and prepares safety reports detailing feasible alternatives and recommendations.

The Project Manager should document the safety issues and any benefit/cost analysis that should include the following:

- Encroachments
- Roadside geometry
- Accident costs

NOTE: Refer to the **Traffic** chapter within this manual for more specific information on project traffic considerations and process.

3.2.3 Structures

The Program Manager must confer with the Project Support Division in the office of Chief Transportation Engineer concerning policies and criteria for approvals related to structure issues. Structural considerations on a project include a review of the following:

- Major Structure – Bridge
- Major Structure – Culvert
- Hydraulic Design
- Major Structure – Unusual
- Pedestrian Overpass/Underpass
- Architectural/Aesthetic Treatments
- Foundation Investigation/Recommendations
- Structure Condition Reports
- Retaining Walls
- Noise Barrier Walls
- Guardrail/Barrier Design and Review
- Crashworthy Bridge Rail
- Vertical and Horizontal Clearances

NOTE: Refer to the **Structures** chapter within this manual, for more specific information and procedures for structural considerations.

3.2.4 Materials/Pavement

The Program Manager must confer with the Project Support Division in the office of Chief Transportation Engineer concerning policies and criteria for approvals related to street/highway design issues.

Pavement material selection of type of pavements below shall be in accordance with the criteria in Part II of the Manual.

- Rigid Pavement.
- Flexible Pavement.
- Composite Pavement.
- Special Material Pavement (Cobble Stone, etc.)

Materials considerations on a project generally include:

- Pavement Analysis/Distress Review
- Geotechnical Studies
- Foundation Investigation/Drilling
- Pavement Material Selection

NOTE: Refer to the **Pavement** chapter within this manual, for more specific information and procedures related to materials.

3.2.5 Trees and Landscaping

The Program Manager/Project Manager should include the Urban Forestry Administration in the design scoping review, the preliminary design review and the final design review meetings. The Program Manager/Project Manager must confer with the Urban Forestry Administration for issues relating to trees and landscaping

The removal, addition, or modification of the landscaping or type of trees within a particular project requires the approval of the Urban Forestry Administration. The technical criteria provide the designer the detailed design information to provide the appropriate landscaped or treed areas.

Landscaping considerations on a project generally relate to tree species, spacing of trees, other facility conflicts, seeding/sodding, tree trimmings, stump removals, sight distance requirements at intersections, and the design/retrofit of irrigation systems when required.

NOTE: Refer to the **Trees, Plants, and Landscaping** chapter within this manual, for more information on landscaping considerations.

3.2.6 ROW Acquisition and Clearances

ROW acquisition and clearance considerations on a project generally include:

- ROW Acquisition Procedures
- Government Land Permission/Permits
- National Parks Service/Other Federal Lands Acquisition
- Utilities Clearance
- Railroad Clearance
- Airport/Heliport Clearance

NOTE: Refer to the **Right of Way and Clearances** chapter within this manual, for more specific information on ROW acquisition and clearance processes.

3.2.7 Utilities

Utility compilation considerations generally include a review of existing utility easements, visual inspections/locates, and procedures for utility clearance. The Program Manager/Project Manager should include engineers from the utility companies at the design scoping review, the preliminary design review and the final design review meetings. Coordination of utility issues early in the process to minimize conflicts is important to the process of the project.

NOTE: Refer to the **Utilities** chapter within this manual, for more information on addressing dry utilities considerations.

3.2.8 Water, Sewer, and Storm Sewer

The Program Manager/Project Manager should include the Water/Sewer Engineer from WASA at the design scoping review, the preliminary design review and the final design review meetings. Coordination of water, sewer, and storm issues early in the process to minimize conflicts is important to the process of the project. Water, sewer, and storm sewer considerations generally include a review of existing utility easements, visual inspections/locates, and procedures for utility clearance.

NOTE: Refer to the **Utilities** chapter within this manual, for more information on addressing water, sewer, and storm sewer considerations.

3.2.9 Agreements and Approvals

Agreement and approval requirements will vary from project to project.

NOTE: Refer to the **Agreements and Approvals** chapter within this manual, for agreement procedures and guidelines.

3.2.10 Community Involvement

Generally, Community Involvement will occur at the following milestones of the project development process:

- Concept Design
- Preliminary Design
- Final Design

The Ward Planner, the TPPA member of the Ward Team, will coordinate and notify the community and the appropriate Advisory Neighborhood Commission (ANC), and ensure that the public is identified and involved in the development of DDOT projects and has an opportunity to influence decision-making.

The Environmental Manager in the Planning Office oversees the preparation of Environmental Impact Statements, Environmental Assessments, and Categorical Exclusion Determination that fully documents the community involvement activities included in the development of the project. Community improvement programs are generally developed on a project-by-project basis.

NOTE: Refer to the **Community Involvement** chapter within this manual, for guidelines and procedures for developing and implementing effective community involvement programs for DDOT projects.

3.2.11 Maintenance Input

The Program Manager/Project Manager will be responsible for notifying the appropriate maintenance personnel, including street maintenance, bridge maintenance, streetlight, traffic signal and traffic safety improvement prior to project scoping and all project reviews during the project development process. The maintenance representative should review the project plans and provide comments in writing to the Program Manager.

3.2.12 L'Enfant Plan

Prior to beginning preliminary design, the Program Manager/Project Manager should determine if the project is within the boundary of the L'Enfant Plan. If the project is within the location, all design must be

coordinated with the National Capital Planning Commission through the Office of Planning.

3.2.13 Capitol Hill

Prior to beginning preliminary design, the Program Manager/Project Manager should determine if the project is within the boundary of Capitol Hill Historic District. If the project is within the location, all design must be coordinated with the Architect of the Capitol.

3.2.14 Historic District/Historic Bridge or on Historic Property

Prior to beginning preliminary design, the Program Manager/Project Manager should determine the following:

- If the project is within the boundary of the historic district.
- If the project is on historic property.
- If the project is listed on the National Registers of Historic Places or consideration for a historic bridge.

If the project meets any of these criteria, all designs must be coordinated with the State Historic Preservation Office (SHPO) and the Commission of Fine Arts. The District of Columbia Inventory of Historic Sites can be found on the D.C. Office of Planning website, www.planning.dc.gov under "Historic Preservation" and then "Historic Inventory and Maps".

3.2.15 Business Improvement District and Streetscape Enhancement

Prior to beginning preliminary design, the Program Manager/Project Manager should determine if the project is within the boundary of a business improvement district or streetscape enhancement area. If the project is within the location, all designs must be coordinated with the National Capital Planning Commission and DDOT Streetscape Committee.

3.2.16 Bike/Pedestrian Improvements

The Program Manager/Project Manager must confer with the TPPA and Traffic Services Administration on bike and pedestrian related issues. The proper placement and design of bike and pedestrian facilities are important elements of design on all applicable projects. The Project Manager should provide bicycle and pedestrian facilities on new construction and reconstruction projects in coordination with Bicycle Coordinator in the

TPPA. For more specifics on bike/pedestrian improvement procedures, refer to the **Traffic** chapter within **Part 2** of this manual.

3.2.17 Rehabilitation or Reconstruction

The Program Manager/Project Manager must confer with the Chief Transportation Engineer or his technical support Engineer in determining the extent of construction. Rehabilitation projects generally have limited environmental and ROW issues. However, rehabilitation projects do offer opportunities to address streetscape improvements, including landscaping, aesthetic and structural enhancement, upgrades of intersections and crosswalks, streetlights, sidewalks, traffic signals, wheelchair ramps, curbs gutters, utility system and enhancements for alternative modes of transportation.

Specific considerations for rehabilitation projects must be determined on a project-by-project basis. Reconstruction projects incorporate total reconstruction of the pavement and all necessary improvements.

3.2.18 Federal Lands Affected

For projects that affect Federal Land, refer to the clearance requirement from the owners of the affected properties.

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